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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,704	12/05/2005	Steen Hojgaard Christensen	04-501	7276

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EXAMINER	
BEKKER, KELLY JO	
ART UNIT	PAPER NUMBER
1794	
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10/22/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/519,704	CHRISTENSEN ET AL.	
	Examiner	Art Unit	
	KELLY BEKKER	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 June 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12-36* is/are pending in the application.

4a) Of the above claim(s) *24-26* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12-23 and 27-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Amendments made June 22, 2009 have been entered.
Claims 12-36 are pending.
Claims 24-26 have been withdrawn.

Claim Rejections - 35 USC § 112 2nd Paragraph/101

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The 112 2nd paragraph rejection and rejection under 35 U.S.C. 101 of claims 21-23 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, specifically for reciting the use of pectin without setting forth any steps involved in the process has been withdrawn in light of applicant's amendments made June 22, 2009.

The following 112 rejections are necessitated by applicant's amendments:

Claims 12-23 and 27-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 12 recites "pectin having a high molecular weight". The term "high molecular weight" is unclear as the guidelines of what is considered a high molecular weight and what would not be considered a high molecular weight has not been particularly pointed out and distinctly claimed; the term is relative to its comparative point which has not been clearly defined. For example, a molecular weight of 50,000 Daltons would be considered higher when compared to a molecular weight of 10,000 Daltons, however a molecular weight of 50,000 Daltons would be considered lower when compared to a molecular weight of 100,000 Daltons, and thus it remains unclear as to if a molecular weight of 50,000 Daltons is a high molecular weight or not.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 12-23 and 27-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marr et al (WO 99/37685) in view of Larsen et al (WO 98/58968). The references and rejection are incorporated herein and as cited in the office action mailed February 23, 2009.

Specifically regarding the newly added method limitations of claim 12, as stated in the previous office action Marr in view of Larsen teach a process for making low ester pectin comprising the steps of obtaining a starting pectin material, contacting the starting material with a bio-catalyst and de-etherifying the starting pectin, and further de-esterifying the pectin material with an alkali, and contacting the de-esterified pectin with ammonia to produce an amidated pectin.

Specifically regarding the intrinsic viscosity of the pectin and the pectin Mark-Houwick factor "a", as stated in the previous office action, since the references of record teach of substantially the same method of treatment as the instantly claimed product, including de-esterification with a biocatalyst and then amidization with ammonia to substantially the same degrees, one of ordinary skill in the art at the time the invention was made would expect that the product as taught by modified Marr possesses substantially the same properties, including the ratio of intrinsic viscosity of the starting product to the intrinsic viscosity of the amidated pectin and the Mark-Houwink factor, as the instantly claimed invention absent any clear and convincing arguments and/or evidence to the contrary.

Specifically regarding claims 31-33, as stated in the previous office action, Marr teaches that the pectin has a de-esterification level of less than 20%, which encompasses the range of less than 30%, 10-20%, and 12-18% (page 2 lines 16-26); Larsen teaches that the degree of amidization pf pectin with improved functional characteristics is 0-25% (page 8 lines 1-14 and page 18 line 27 through page 19 line 16); and it would have been obvious to one of ordinary skill in the art at the time the invention was made to amidate the de-esterified pectin to 0-25% in order to form a product with improved functional characteristics as taught by Larsen.

Specifically regarding the pectin as high molecular weight, as stated in the rejection above, the term "high molecular weight" is unclear. Regardless as Marr

teaches a molecular weight of 20,000 to 50,000 Daltons, by teaching 50,000 Daltons which is high when compared to 20,000 Daltons (abstract), Marr teaches of a pectin with a high molecular weight.

Response to Arguments

Applicant's arguments filed June 22, 2009 have been fully considered but they are not persuasive.

Applicant argues that there is no motivation to combine the teachings of Marr and Larson and that hindsight reconstruction was used because Marr does not provide suggestion or motivation for modification, because Larson teaches of a process with pectin fractions and Marr teaches of a bulk pectin product, and because Marr teaches of a degree of esterification of less than about 20 and Larson teaches of a degree of esterification of 50% or higher. Applicant's argument is not convincing as:

- It must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).
- The examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).
    - In the instant case, only knowledge which was within the level of ordinary skill at the time the claimed invention was made was taken into account wherein the combining or modifying the teachings of the prior art to produce the claimed invention was by some teaching, suggestion, or

motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art.

- As stated above and in the previous office action, Marr teaches that the pectin has a de-esterification level of less than 20%, which encompasses the range of less than 30%, 10-20%, and 12-18% (page 2 lines 16-26); Larsen teaches that the degree of amidization pf pectin with improved functional characteristics is 0-25% (page 8 lines 1-14 and page 18 line 27 through page 19 line 16); and it would have been obvious to one of ordinary skill in the art at the time the invention was made to amidate the de-esterified pectin as taught by Marr to 0-25% in order to form a product with improved functional characteristics as taught by Larsen.

- Applicant's argument that the modification would not have been obvious because Marr does not provide suggestion or motivation for modification is not convincing as although Marr does not provide suggestion for the modification, the motivation and suggestion are found in the teachings of Larsen. The rejection is based on a combination of references and not upon one reference alone.
- Applicant's argument that the modification would not have been obvious because Larson teaches of a process with pectin fractions and Marr teaches of a bulk pectin product, is not convincing as the bulk pectin as taught by Marr includes pectin fractions and thus the process of Larson which enhances the pectin fractions would also enhance the pectin fractions in the bulk pectin, thus enhancing the bulk pectin as taught by Marr.
- Applicant's argument that the modification would not have been obvious because Marr teaches of a degree of esterification of less than about 20 and Larson teaches of a degree of esterification of 50% or higher is not convincing as Larson also teaches that the pectin has a degree of

esterification of less than 50% which encompasses less than about 20% (Larson, page 8 lines 9-14).

Applicant argues that the references of record teach a low molecular weight pectin and do not teach of a high molecular weight pectin as instantly claimed, and thus teach away from the instant invention. As stated in the rejection above the term "high molecular weight" is unclear and since Marr teaches a molecular weight of 20,000 to 50,000 Daltons, by teaching 50,000 Daltons which is high when compared to 20,000 Daltons, Marr teaches of a pectin with a high molecular weight.

Applicant argues that the references of record do not teach the intrinsic viscosity of the pectin and the Mark-Houwink factor of the pectin as instantly claimed. Applicant has chosen to use an equation with parameters that cannot be measured by the Office, for the purpose of prior art comparison, because the office is not equipped to manufacture prior art products and compare them for patentability. Therefore, applicant is reminded that where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established. In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." In re Spada, 911F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). In the instant case, the pectin as taught by the references of record is produced in substantially the same method as the instantly claimed invention, thus one of ordinary skill in the art at the time the invention was made would expect that the pectin produced by Marr in view of Larson posses substantially the same properties, including substantially the same intrinsic viscosity and Mark-Houwink factor as instantly claimed.

Applicant argues that the invention provides for surprising and unexpected results, as shown in the specification. Applicant's argument is not convincing as 1) the references of record teach of the instantly claimed invention and 2) the results and properties shown in the specification of the comparative examples and the instant invention overlap and thus do not appear to be significantly difference and some of the

properties, such as a 34-49% reduction in molecular weight which are different are not included in the instantly claimed invention.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KELLY BEKKER whose telephone number is (571)272-2739. The examiner can normally be reached on Monday through Friday 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on (571) 272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Lien Tran/
Primary Examiner
Art Unit 1794

/Kelly Bekker/
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